UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,564	03/10/2004	Dennis M. O'Connor	P18395	7801

25694	7590	10/12/2006

INTEL CORPORATION
P.O. BOX 5326
SANTA CLARA, CA 95056-5326

EXAMINER
NGUYEN, THAN VINH

ART UNIT	PAPER NUMBER
2187	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td colspan="2">Application No.</td><td colspan="2">Applicant(s)</td></tr>
<tr><td colspan="2">10/799,564</td><td colspan="2">O'CONNOR ET AL.</td></tr>
<tr><td></td><td colspan="2">Examiner</td><td>Art Unit</td><td></td></tr>
<tr><td></td><td colspan="2">Than Nguyen</td><td>2187</td><td></td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *3/10/04, 1/12/06*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1) Claims 1-45 are pending

2) The IDSes, filed 3/10/04 and 1/12/06, have been considered.

Claim Rejections - 35 USC § 112

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "observable" in claims 1-45 is used by the claim to mean "accessible or available", while the accepted meaning is "able to be observed/discernable." The term is indefinite because the specification does not clearly redefine the term. A processor does not have the ability to "observe" or "see", as Applicant describes in the specification and claims. A processor can only perform functions instructed or hardwired. The use of the terms "observe" or "see" is vague and ambiguous as one of ordinary skills in the art cannot reasonable determine how a processor can observe or see an operation as these traits are not clearly defined by the specification nor commonly used in the arts. For purposes of examination, the Examiner interprets the language of a memory operation being "observable" by a processor to mean

that the data result of the memory operation is ready or available to be accessed by a

processor.

Claim Rejections - 35 USC § 102

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6) Claims 1-41 are rejected under 35 U.S.C. 102(a) as being anticipated by Gharachorloo et al.

"Memory Consistency and Event Ordering in Scalable Shared-Memory Multiprocessors,

1990 IEEE, Pgs. 15-26), hereinafter as Gharachorloo.

As to claim 1,22:

7) Gharachorloo teaches a system and its associated method to order memory operations in a

system, the method comprising: using at least one signal to indicate that a particular kind of

memory operation is not globally observable but is observable by at least one processor of

the system (using a flag to indicate that data is [not] ready for access, using lock[s]

operations to prevent other processors from accessing/seeing the data (p.17/col. 2/par. 1-2).

As to claim 2-6,9,11,12,15,17-20,26,27,29-32,34-39:

8) Gharachorloo teaches wherein using includes using at least two signals, wherein a first signal

of the at least two signals indicates that a load/store operation issued by the at least one

processor is not globally observable by all processors of the system but is observable by the

at least one processor and wherein a second signal of the at least two signals indicates that a

store/load operation issued by the at least one processor is not globally observable by all

processors of the system but is observable by the at least one processor (using flag/locks to

prevent/allow other processors from accessing/seeing the data during load/store/swap;

p.17/col 2/par. 1-2; p.16/col. 2/par. 4-8; p.19/col 1/par. 4-6; Fig. 3).

As to claim 7,10,13,16,21,24:

9) Gharachorloo teaches allowing other store/load/swap operations to be issued by any of the

processors of the system if the first signal is asserted (release the lock for other processors to

access the data; p. 17/col 2/par. 1-2; p. 19/col 1/par. 4-6).

As to claim 8,14,25,28:

10) Gharachorloo teaches preventing any processor of the system to issue a memory operation

other than a store/load/swap operation if the first signal is asserted (p. 16/col 2/par. 4-8).

As to claim 23,33,40:

11) Gharachorloo teaches a second processor coupled to the first processor and signal lines

connecting the processors (multiprocessor systems interconnected; p. 15-16).

As to claim 41:

12) Gharachorloo teaches the first and second processor having local and shared cache/memories

(p. 15/col 2/par. 3-4). It should be noted that Sharma et al (US 6,055,605) also teaches a

multiprocessing system having multiple processors, each having a private cache, and sharing

a shared cache (Fig. 1-3; 4/10-15).

Claim Rejections - 35 USC § 103

13) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

14) Claims 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over by

Gharachorloo et al. "Memory Consistency and Event Ordering in Scalable Shared-Memory

Multiprocessors, 1990 IEEE, Pgs. 15-26), hereinafter as Gharachorloo.

15) As to claim 42,45:

16) Gharachorloo teaches a system/wireless phone, comprising: a first processor to use at least

one signal for memory consistency, wherein the at least one signal indicates that a particular

kind of memory operation is not globally observable in the system but is observable by at

least one processor of the system; and an antenna coupled to the first processor (using a flag

to indicate that data is [not] ready for access, using lock[s] operations to prevent other

processors from accessing/seeing the data (p.17/col. 2/par. 1-2). Gharachorloo does not

specifically teach an antenna coupled to the first processor. It is well-known to use an

antenna to allow wireless communication between systems. Thus, it would have been

obvious to one of ordinary skills to use an antenna in the system of Gharachorloo to allow

wireless communications between the processors in the multiprocessor system.

As to claim 43:

17) Gharachorloo teaches a second processor coupled to the first processor and signal lines

connecting the processors (multiprocessor systems interconnected; p. 15-16).

As to claim 44:

18) Gharachorloo teaches the first processor has logic to assert the first signal line after the first

processor issues a load operation to indicate that the load operation is not globally observable

in the system but is observable by at least one processor of the system (using flag/locks to

prevent/allow other processors from accessing/seeing the data during load/store/swap;

p.17/col 2/par. 1-2; p.16/col. 2/par. 4-8; p.19/col 1/par. 4-6; Fig. 3).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Than Nguyen whose telephone number is 571-272-4198. The

examiner can normally be reached on 8am-3pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Than Nguyen
Primary Examiner
Art Unit 2187